

Work Order ID 48121

June 26, 2009 11:04:38 AM



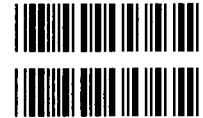
Page 1

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

25/10 Accept
w 19
[Barcode]



Setup Start
Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	Rev H								
100	MORI SEIKI CNC LATHE LARGE	0.00							
[Barcode]	Mori Seiki								
Mori Seiki CNC Lathe Large	Memo	0.00							
	Turn as per Folio FA599								
	Rev: ____ & Dwg D3391 Rev: ____								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
[Barcode]	QC								
Quality Control	Memo	0.00							
120	HAAS CNC VERTICAL MACHINING #1	0.00							
[Barcode]	HAAS 1								
HAAS CNC vertical machine #1	Memo	0.00							
	1-Machine as per Folio FA 599 Rev: ____ & Dwg D3391 Rev: ____								
	12-Deburr								

Work Order ID 48121

June 26, 2009 11:04:38 AM



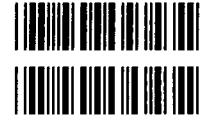
Page 2

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

Accept



Setup Start
Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date:

SPC (Y/N): Date:

Run Start
Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

140



QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

150



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

Work Order ID 48121

June 26, 2009 11:04:38 AM



Page 3

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 CNC Bend I CNC Delta 100 Bender	BENDING MACHINE - SKIDTUBES Memo Form as per Dwg D3391 Using Bend Prog 3391025	0.00 0.00							
170 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
180 Skidtubes Skidtubes	Skidtubes Memo 1-Open Aft cap pilot hole to .208" as per Dwg D3391 12-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only. 13-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig *****Do Not Open To Finished Size***	0.00 0.00							

Work Order ID 48121

June 26, 2009 11:04:38 AM



Page 4

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
200 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							
210 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							

Work Order ID 48121

June 26, 2009 11:04:38 AM



Page 5

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

Accept



Setup Start
Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

220

0.00



Skidtubes

Skidtubes

Memo

0.00

Instal spacers as per dwg D33911 A/R Magnabond 6398
Batch: 111124 exp. date: 10-2-11 cure time 12hrs as per QSI0015

u 9-7-6

230

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

=> 802/07/06 @40

Quality Control

240

0.00



White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Powdercoat

Memo

0.00

Powder Coating

START TIME: 2:30pm OVEN TEMPERATURE:
320°F FINISH TIME: 2:30pm
PRESSURE WASH ell

YH 09-07-08 @40

Work Order ID 48121

June 26, 2009 11:04:38 AM



Page 6

Item ID: D3391-025
Revision ID: H
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date:

SPC (Y/N): Date:

Run Start
Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250

QC3- Inspect Part Finish

0.00

BL 09-07-7



QC

Memo

0.00

Quality Control

260

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg
D3391 A/ R Sikaflex-241/-291 *mini 557* Sikaflex expiry
date: *10/01*

BL /MD 09-07-07

270

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

=> 809107108 @

Work Order ID 48121

June 26, 2009 11:04:38 AM



Page 7

Item ID: D3391-025

Accept



Setup Start



Revision ID: H

Stop



Item Name: Aft Tube Assembly

Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

280

Identify as per dwg & Stock Location: _____

0.00



Packaging

Memo

Packaging

w/o.
D412-742-012
B# 47883
mf
09-07-16

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

Quality Control

0.00

mf 09-07-15

June 26, 2009 11:04:38 AM

Work Order ID: 48121

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 1.00

Required Qty: 1.00

[illegible]

Picklist Print

June 26, 2009 11:04:38 AM

Work Order ID: 48121

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly









Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3553-1RevA		Manufactured	No			260	Each	0.0000	1.0000			
* 				B33868		umo 09/07/07						
Gasket												
✓ D3553-3RevA		Manufactured	No			260	Each	0.0000	1.0000			
* 				B33870		umo 09/07/07						
Gasket												
✓ D3670-4-200RevA		Manufactured	No			260	Each	0.0000	4.0000			
												
SPACER												
✓ D3672-1RevB		Manufactured	No			260	Each	0.0000	2.0000			
* 				B42329		umo 09/07/07						
Phenolic Washer												

Date: Friday, 22/05/2009 8:59:40 AM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : AFT TUBE ASSEMBLY
Job Number : 48121	
Estimate Number : 10699	
P.O. Number :	Part Number : D3391025
This Issue : 22/05/2009 S.O. No. :	Drawing Number : D3391 REV H
Prsht Rev. : NC	Project Number : N/A
First Issue : // Type : SKIDTUBES	Drawing Revision : H
Previous Run : 48120	Material :
Written By :	Due Date : 28/05/2009 Qty: 1 Um: Each
Checked & Approved By : <u>JW 09.05.25</u>	
Comment : Est Rev B 06-02-07 ECN773 dwg rev. D EC Est Rev:C 06-03-28 Update Manuf. Instructions JLM	
est rev D 07.03.20 revF dwg EC est rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD Est Rev:F 07-11-13 ECN 1056 DD verified by: EC Est Rev:G 08-09-10 revH as per dwg DD verified by:EC Est Rev:H 09-04-08 Added QC8 at Lathe as per NCR 09-028 JLM Verified By:DD	

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

D6014090

ALUMINUM EXTRUSION



Comment: Qty.: 1.0000 f(s)/Unit Total : 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty	Part Number	Description	Batch
1	D6014-090	Extrusion	592708

Identify as D3391-3

a.m 09.06.02 (1)

2.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599

Rev: AA & Dwg D3391 Rev: H

a.m 09.06.02 (1)

3.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

a.m 09.06.02 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 22/05/2009 8:59:40 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 48121

Part Number: D3391025

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

4.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

S 09/06/22 @

5.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS

1-Machine as per Folio FA 599 Rev: AA & Dwg D3391 Rev: H

2-Deburr

SP 09/06/18

6.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SP 09/06/18

7.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

J.L 09/06/18

8.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------



Comment: LANDING GEAR RESOURCE 1

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

① M 9-6-22

9.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------



Comment: NC Bender

Form as per Dwg D3391 Using Bend Prog 3391025

① M 9-6-22

10.0	QC5	INSPECT WORK TO CURRENT STEP
------	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

h=4.31'
L=24.90

S 09/06/22 (X)

11.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
------	-------------	-----------------------



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig.

*****Do Not Open To Finished Size*****

M 9-6-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 22/05/2009 8:59:40 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 48121

Part Number: D3391025

Job Number:



Seq: #:

Machine Or Operation:

Description :

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per Dwg D3391.

7-Deburr

11
9-6-22

Tools: rill

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

509106123

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

D 11 9-6-23

14.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

D 9-6-23

15.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

SPACER

batch: B46106

9 11 9-6-23

16.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Instal spacers as per dwg D3391

A/R Magnabond 6398 Batch: 12111249

exp. date: 12-2-1

cure time 12hrs as per QSI0015

11 9-6-6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 22/05/2009 8:59:40 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 48121

Part Number: D3391025

Job Number:



Seq. #: Machine Or Operation: Description :

17.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S09/07/06 @

18.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME: 2:30 AM

OVEN TEMPERATURE: 320°C

FINISH TIME: 2:30 AM

09-07-06 (K)

19.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BK 09-07-07 @

20.0 D2646 Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Cap

Pick:

Qty Part Number Description Batch

1 D2646 Aft Cap

B48109

UMD 09/07/07

21.0 D35371 Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPAD

B48162

UMD 09/07/07

22.0 D35377 Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearpad

B45408

UMD 09/07/07

23.0 D35531 Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

B33868

UMD 09/07/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 22/05/2009 8:59:40 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 48121

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D35533

Gasket



* Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

B33870

UMD 09/07/07

25.0

D36721

Phenolic Washer



* Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

PHENOLIC WASHER

B42329

UMD 09/07/07

26.0

ALS41032130

Insert



* Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

INSERT

batch: m110511

or equivalent per

QSI 017

UMD 09/07/07

27.0

ALS41032225

Insert



* Comment: Qty.: 12.0000 Each(s)/Unit Total : 12.0000 Each(s)

INSERT

or equivalent

Per QSI 017

m110768

UMD 09/07/07

28.0

AN3C4A

BOLT



* Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Bolt

Pick:

Qty

Part Number

Description

Batch

2

AN3C4A

Bolt

m112082

UMD 09/07/07

29.0

AN3C5A

Bolt



* Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

m111707

UMD 09/07/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 22/05/2009 8:59:40 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 48121

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

30.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Inventory

Pick:

Qty Part Number Description Batch

2 AN960C10L Washer

m12116

umo 09/07/07

31.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 *m11557*

Sikaflex expiry date: *10/01*

BR Lmo 09/07/07

(X)

32.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8 09/07/08 (X)

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

34.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 48121
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓			
3.500	+/-0.010	3.495	✓			
88.93	+/-0.030	88.950	✓			
44.995	+/-0.030	4.965	✓			
Ø3.200	+/-0.010	3.198	✓			
88.93	+/-0.030	88.950	✓			
Ø3.750	+/-0.010	3.750	✓			
30° x 160" chamfer	+/-0.010					

Measured by: _____ **Date:** _____

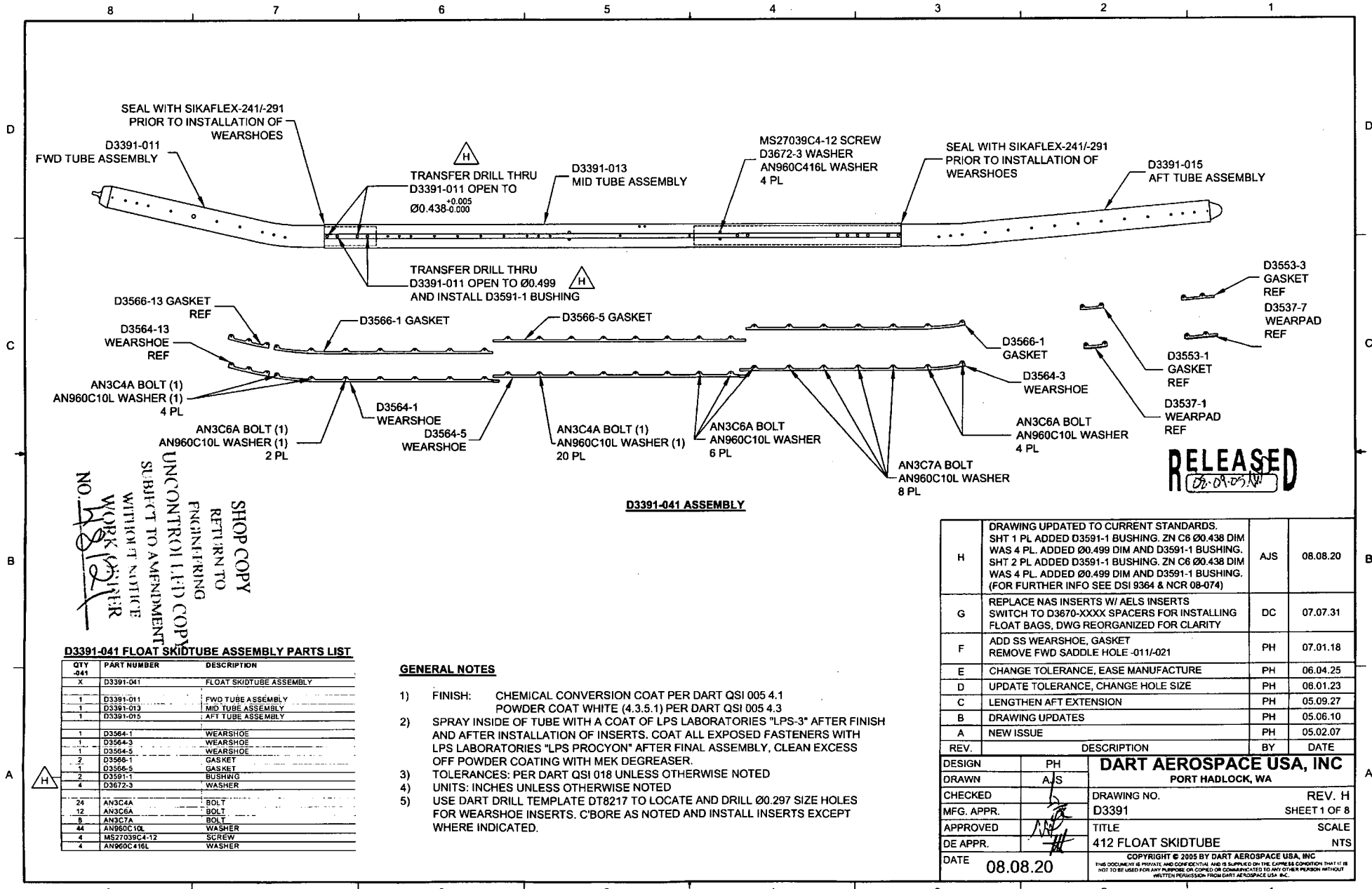
Audited by: _____ **Date:** _____

HAAS Section						
1.526	+0.000/-0.030	1.520				
0.200	+/-0.010	.198				
7.500	+/-0.010	7.498				
27.750	+/-0.010	27.750				
31.750	+/-0.010	31.750				
35.250	+/-0.010	35.250				
3.300	+/-0.010	3.305				
0.200	+/-0.010					
3.520	+/-0.010	3.520				
0.687	+0.010/-0.000	.690				
R0.062	+/-0.010	.062				
Ø0.484	+0.005/-0.001	.488				

Measured by: A.M. / ST **Date:** 09.06.02 / 09/06/18

Audited by: J.L. **Date:** 09/06/18

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	






D3391-041 ASSEMBLY

D3391-041 FLOAT SKID TUBE ASSEMBLY PARTS LIST

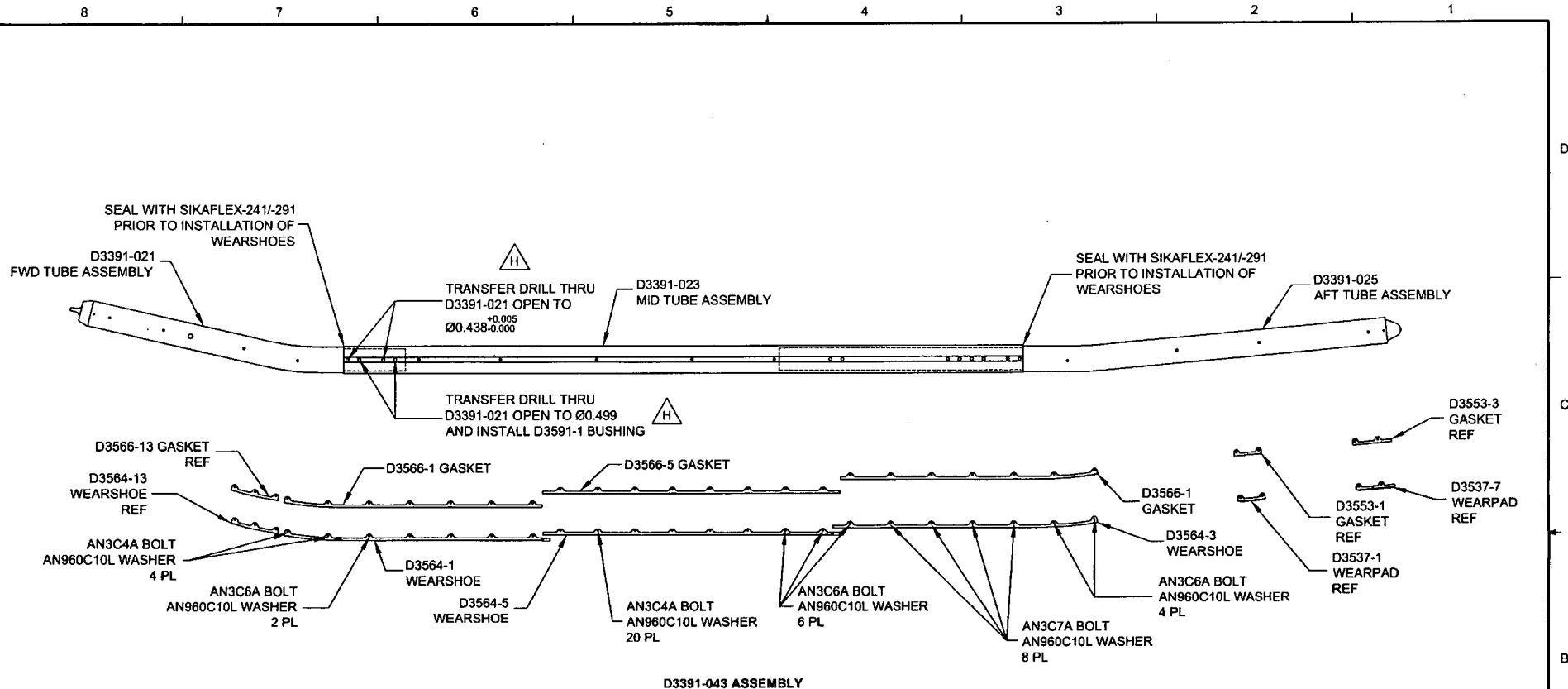
QTY	PART NUMBER	DESCRIPTION
-041		
X	D3391-041	FLOAT SKID TUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)		AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY		DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021		PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE		PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE		PH	06.01.23
C	LENGTHEN AFT EXTENSION		PH	05.09.27
B	DRAWING UPDATES		PH	05.06.10
A	NEW ISSUE		PH	05.02.07
REV.	DESCRIPTION		BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA		
DRAWN	AJS			
CHECKED		DRAWING NO.	REV. H	
MFG. APPR.		D3391	SHEET 1 OF 8	
APPROVED		TITLE	SCALE	
DE APPR.		412 FLOAT SKIDTUBE	NTS	
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK CENTER
 NO. 14812



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3581-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

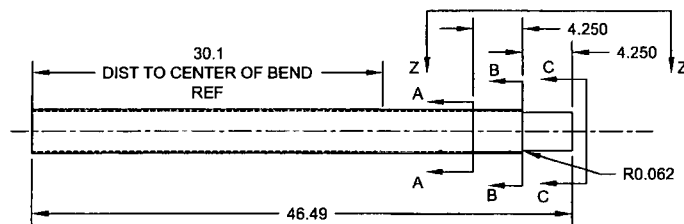
GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

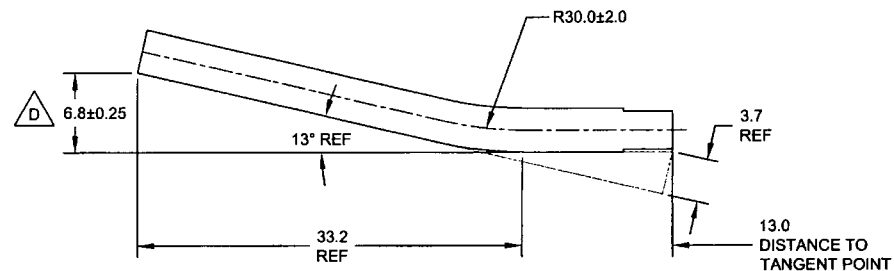
RELEASED
08-09-25/10

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

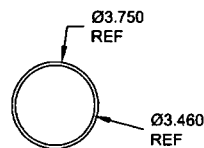
NO. 42
WORK ORDER
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY
COPY



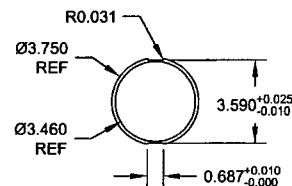
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



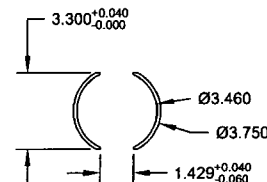
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



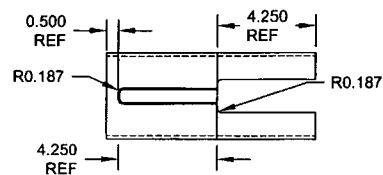
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X

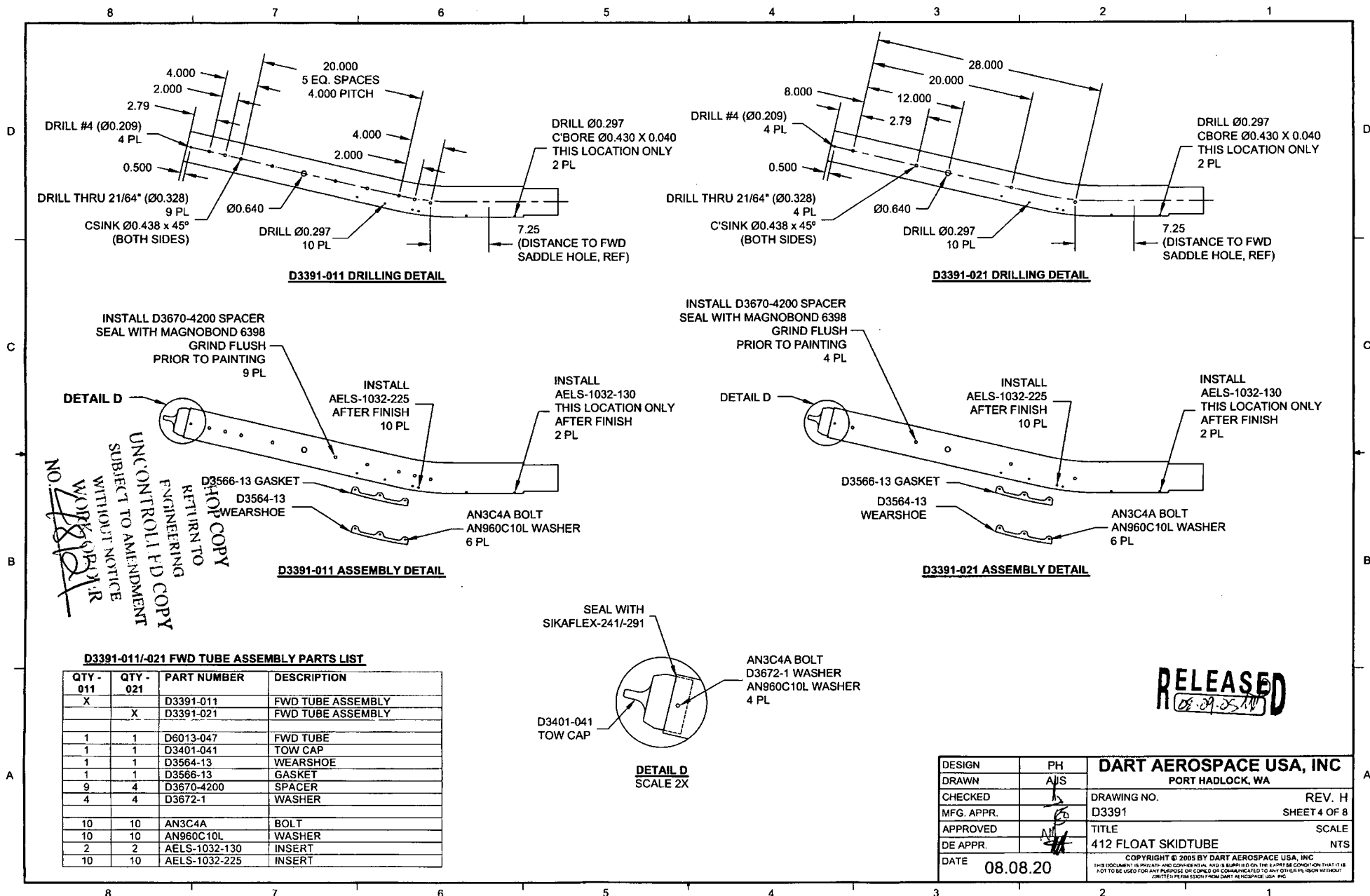


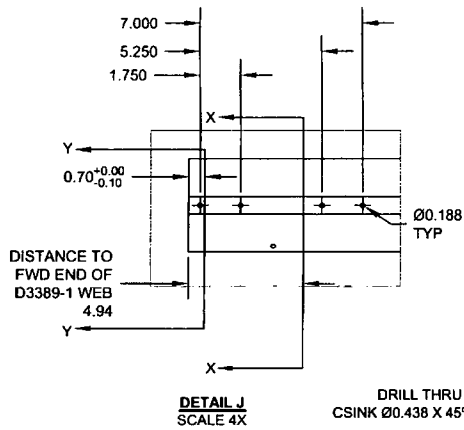
VIEW Z-Z
SCALE 2X

RELEASED
08-05-11

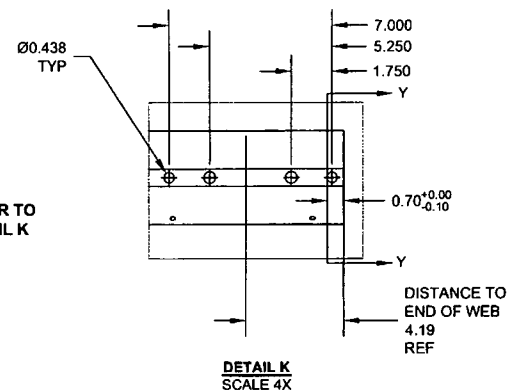
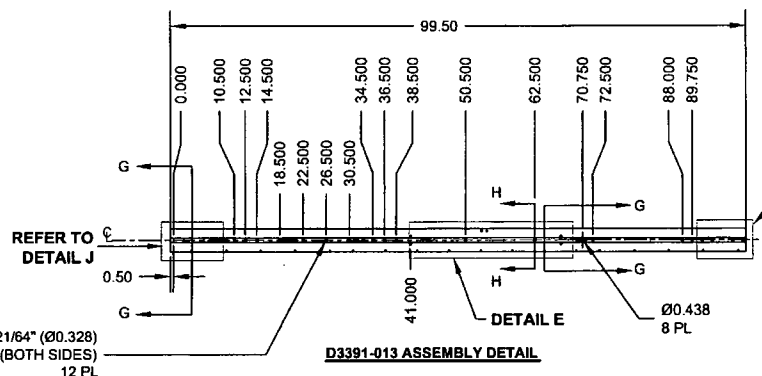
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC</small>	

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
NO. 128101

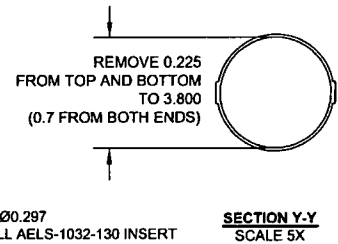
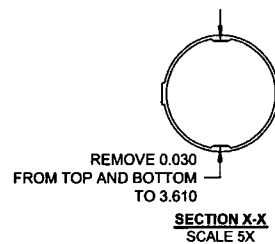
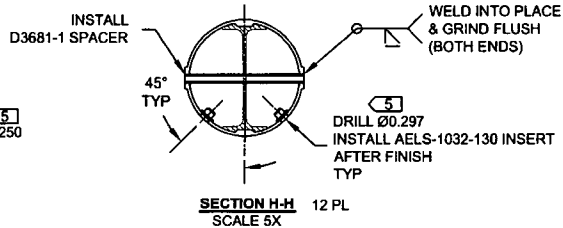
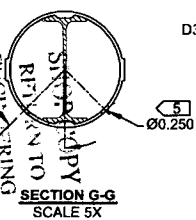




DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WIP: 12/21/02
NO 12/21/02

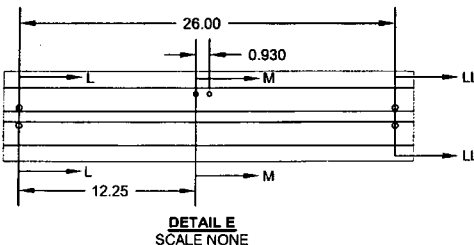


D3391-013 MID TUBE ASSEMBLY PARTS LIST

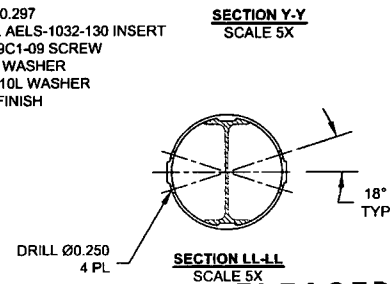
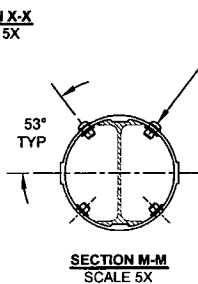
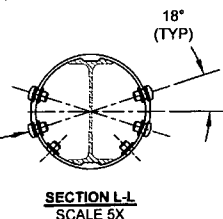
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004



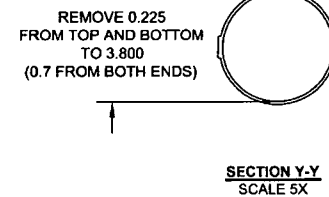
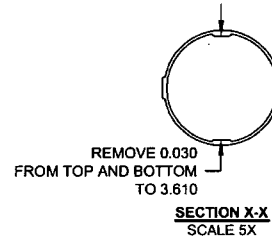
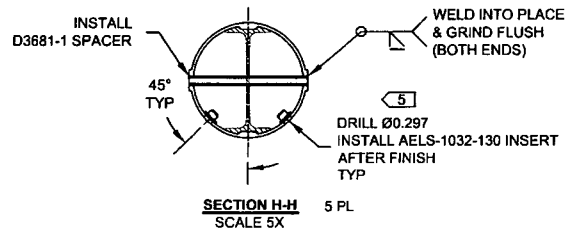
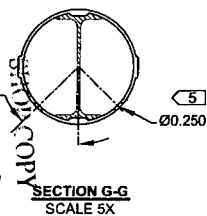
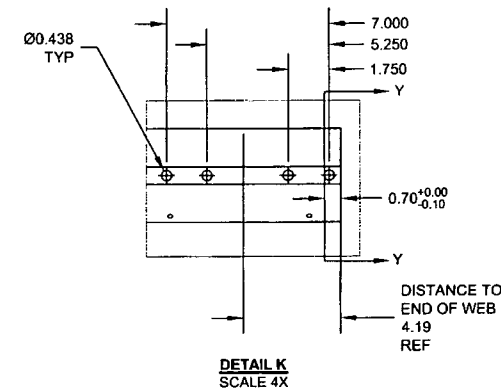
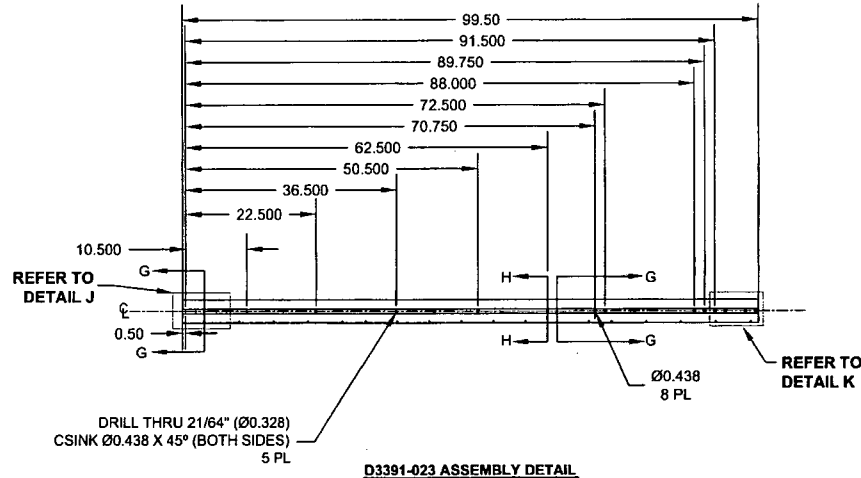
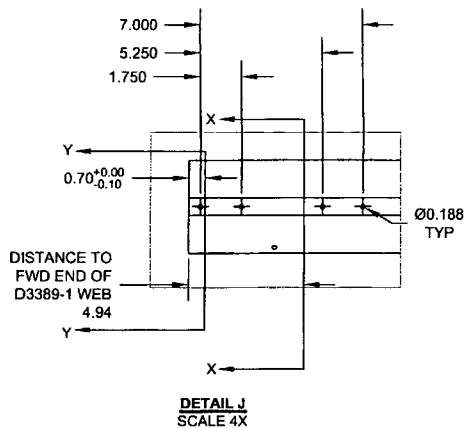
DRILL Ø0.391
INSTALL ALS4-428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
AN960C416L WASHER
AFTER FINISH
4 PL



RELEASED
08-08-20

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	AJS	PORT HADLOCK, WA
CHECKED		DRAWING NO. REV. H
MFG. APPR.		D3391 SHEET 5 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.



D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

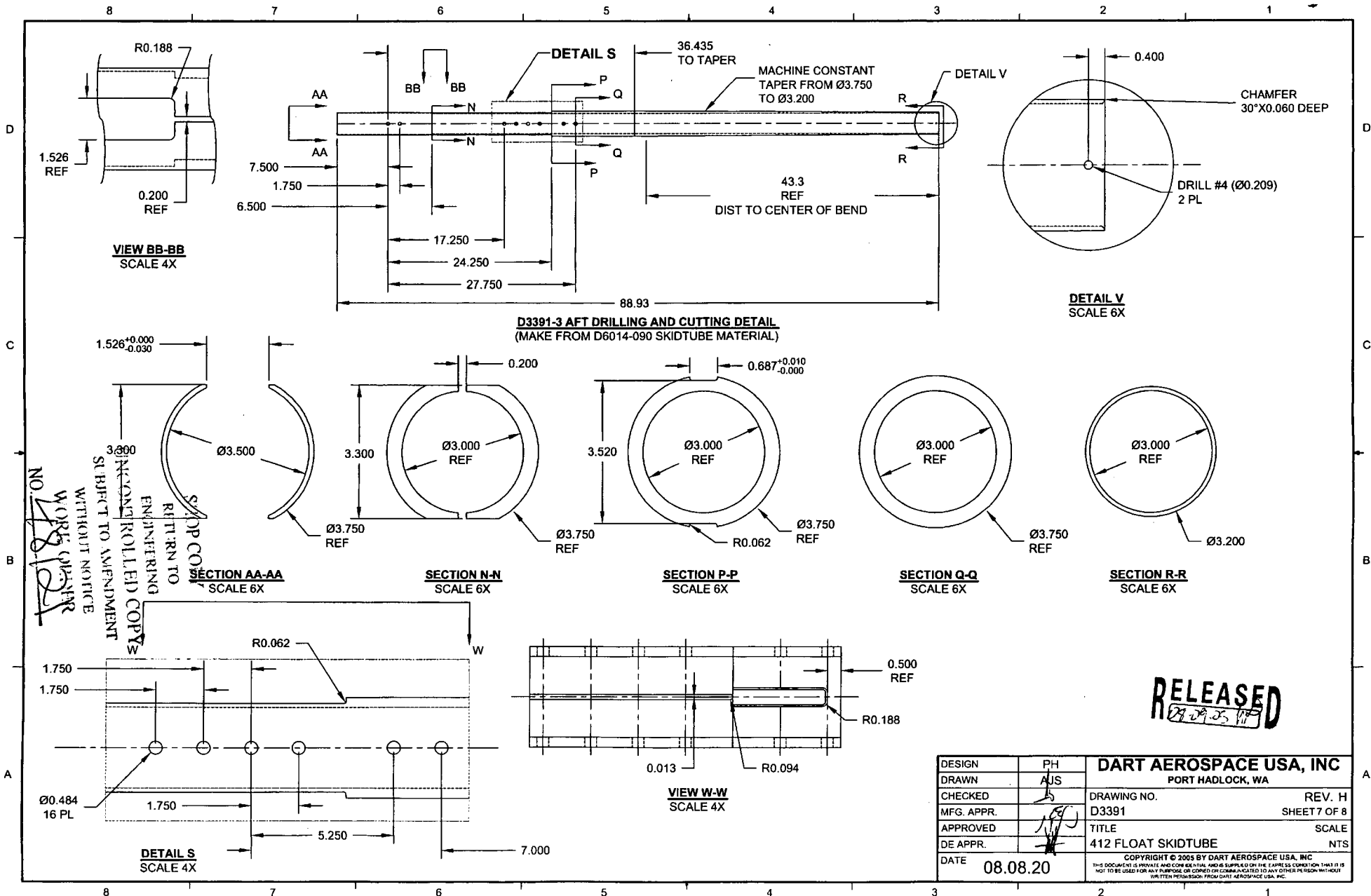
D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

RELEASED
28-05-14

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	A/S	PORT HADLOCK, WA
CHECKED		DRAWING NO. REV. H
MFG. APPR.		D3391 SHEET 6 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.



NO. 48123
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
ENGINEERING
RETURN TO
SHIP COPY

